



Causal Analysis

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 Requirements

 Methodology

 Expectations

 Enforcement Outcomes

 Oak Ridge Perspectives



Requirements

- ✍ Why do a causal analysis anyway?
- ✍ 10 CFR 830.122 (c)(3) – Quality Improvement criteria
- ✍ “...Identify the causes of problems and work to prevent recurrence as a part of correcting the problem.”



Methodology

- ✍ Graded approach
- ✍ Screen/ranking of problems
- ✍ Lower rank = less rigor
- ✍ “Apparent cause”, “direct derivation”








Methodology II

- ✍ No DOE prescribed method for formal causal analysis.
- ✍ Commonly see Taproot, Reason, Phoenix, “Why staircase.”
- ✍ NTS reportability typically drives the highest level of investigation/analysis.



Expectations

-  Scope and depth appropriate
-  Extent of conditions (EOC) review
-  Precursor review
-  Corrective actions flow from causes
-  Formally documented



Scope and Depth

- ✍ Need to appropriately characterize and address the whole problem
- ✍ Need to dig deep enough
 - Don't stop at "failure to follow procedures"
 - Focus seems to be on procedures and processes, not on people
 - Issues of management, production or other influencing factors rarely explored



Scope and Depth II

- ✍ Blame often placed on individual worker; however, OE looks hard at the rogue employee defense
- ✍ Level of investigation and analysis commensurate with the problem



Extent of Conditions

- ✍ Look for same or similar problem in other facilities or operations
- ✍ Such reviews infrequently or inconsistently performed
- ✍ Situation specific – EOC review would not make sense in all situations



Precursor Review

- ✍ Look for prior examples of problem, and developed corrective actions- why didn't they work?
- ✍ ORPS drives look for similar examples – rarely see review or analysis of prior corrective actions
- ✍ Should assessments have identified problem?





Corrective Actions

- ✍ Corrective actions should flow out of causal analysis
- ✍ Look for timely completion of corrective actions
- ✍ Verification of effectiveness



Enforcement Outcome

-  Deficient causal analysis and corrective actions can lead to enforcement.
-  QI citations have made up about 20% of all violations cited.



Enforcement Outcome II

Problems cited:

- Failure to do effective causal analysis
- Ineffective corrective actions leading to recurrence

Continuing OE emphasis on causal analysis



Closure Criteria

- ✍ Root cause has been determined and documented.
- ✍ Corrective actions taken address the root cause as well as associated deficiencies identified through the root cause analysis.








Closure Criteria II

- ✍ Corrective actions taken have acceptable evidence of completion.
- ✍ There is reasonable expectation that the actions completed will prevent recurrence of the issue.






Vague - Non-committal

-  Submit xxx.
-  Perform review of xxx.
-  Change/revise procedure xxx.
-  Evaluate procedures/documents for needed change/revision.
-  Verify/validate actions complete.



Specific Actions

-  Implement xxx after approval.
-  Implement recommendations from xxx review or justify and document why recommendations are not necessary.
-  Issue and implement change/revision to procedure xxx.



Specific Actions II

- ✍ Evaluate procedures/documents for needed change/revision. Document evaluation and implement needed changes/revisions.
- ✍ Verify/validate actions completed and implementation will reasonable prevent recurrence of the issue. [Verification and validation may be separate.]